

A REVISION OF THE CORYCIUM NIGRESCENS COMPLEX

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Botany Honours
September 1978.

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CONTENTS

| | page |
|--|------|
| Abstract | |
| List of figures | |
| Introduction | 1 |
| Methods | 2 |
| Taxonomic Treatment | 3 |
| Key to the Species of the <u>C. nigrescens</u> Complex | 5 |
| <u>Corycium nigrescens</u> Sond. | 5 |
| Diagnostic Characters | 6 |
| Distribution | 6 |
| Taxonomy | 6 |
| Material Examined | 13 |
| <u>Corycium dracomontanum</u> Schelpe ined. | 19 |
| Diagnostic Characters | 19 |
| Distribution | 19 |
| Taxonomy | 20 |
| Material Examined | 20 |
| <u>Corycium alticola</u> Parkman and Schelpe ined. | 32 |
| Diagnostic Characters | 32 |
| Distribution | 34 |
| Material Examined | 34 |
| Acknowledgements | 36 |
| Literature | 37 |

ABSTRACT

A taxonomic revision of the Corycium nigrescens complex (Orchidaceae) is presented. All the available material in the Bolus Herbarium and material loaned from the Botanical Research Institute (PRE) was dissected, examined and drawn. It is concluded that within this complex two undescribed species, besides C. nigrescens Sond., namely C. draconontanum Schelpe (which is sympatric with C. nigrescens) and C. alticola Parkman and Schelpe, can be distinguished.

LIST OF FIGURES

| | | | |
|-----|--|-----|----|
| 1. | Whole flowers of <u>Corycium nigrescens</u> Sond., <u>C.dracomontanum</u> Schelpe and <u>C.alticola</u> Parkman & Schelpe | ... | 7 |
| 2. | <u>Corycium nigrescens</u> Sond. | ... | 8 |
| 3. | <u>C.nigrescens</u> in grassland at Cathedral Peak | ... | 9 |
| 4. | Distribution of <u>C.nigrescens</u> Sond. | ... | 10 |
| 5. | Morphological variation in the lip and lip-appendage of <u>C.nigrescens</u> Sond. | ... | 11 |
| 6. | <u>Corycium dracomontanum</u> Schelpe | ... | 21 |
| 7. | <u>C.dracomontanum</u> in grassland at Witsieshoek and at Van Reenen's Pass | ... | 22 |
| 8. | Distribution of <u>C.dracomontanum</u> Schelpe | ... | 23 |
| 9. | Morphological variation in the lip and lip-appendage of <u>C.dracomontanum</u> Schelpe | ... | 24 |
| 10. | <u>Corycium alticola</u> Parkman & Schelpe | ... | 33 |
| 11. | Distribution of <u>C.alticola</u> Parkman & Schelpe | ... | 35 |

INTRODUCTION

The genus Corycium Swartz is endemic to South Africa and consists of seventeen species. These are distributed from the north-western and south-western Cape Province, through the southern and eastern Cape Province and Natal, to the Transvaal. In the winter-rainfall region they grow in a wide range of rather open habitats, while in the summer-rainfall area they are to be found in grassland up to the summit plateau of the Drakensberg.

Corycium nigrescens is a widespread species of the summer-rainfall area and, excepting for the extremely rare Acrolophia ustulata, is the nearest to a black orchid that one can find in South Africa. It is distributed from Knysna in the south, over the Drakensberg and coastal regions of the Transkei and Natal, to the Houtboschberg in the Transvaal. Flowering occurs in the summer months (November to February) in the more easterly distributed members of the summer-rainfall area, whilst along the coastal belt towards Knysna - an area that receives some winter rainfall - there is a transition to autumn and winter-flowering.

The flowers of the genus Corycium have a characteristic hood formed from the concave petals and incumbent dorsal sepal. Although Corycium was separated from Pterygodium by Swartz in 1800 on the grounds of the great depth of the hood, this is not true of all species; for example C. magnum and C. alticola sp. nov., both of which have a tall, rather shallow one. The lip has a large, erect, fleshy appendage which is often divided at the top into two flattened, deflexed lobes.

That Bolus was aware, in the late 1890's, of the existence of a second taxon within the C. nigrescens complex is indicated by an unpublished name "C. sandersonii ined." on a specimen in the Bolus Herbarium. Rolfe (1913), in compiling the Orchidaceae for the Flora Capensis was unaware of the existence of a second species. However, fresh material collected by Schelpe at a number of localities on the Drakensberg escarpment in January 1977 reaffirmed the idea of a possible new taxon. The present paper is an evaluation of the taxonomic status of the two suspected different taxa.

In addition, material collected by Mrs. Auriel Batten and (independently) by Linder in February 1977, superficially resembled C. nigrescens, but was obviously larger and had a different lip-appendage. This was provisionally accepted as a second new taxon. All three putative species turn black soon after collection and the onset of drying and, unless they are dissected, differentiation is difficult - sometimes impossible - from dried material.

METHODS

A purely alpha-taxonomic approach was used in attempting to define the natural taxa within the Corycium nigrescens complex. All the available dried material in the Bolus Herbarium, including specimens on loan from the Botanical Research Institute, was reconstituted (by boiling in water containing detergent), dissected and examined. The lip and lip-appendage were then drawn to scale using the Wild drawing apparatus. A number of the specimens were accompanied by flowers in liquid preservative and these were also dissected and examined. The plates were prepared from this preserved material. In addition distributional ranges were plotted in order to ascertain whether the ranges of variation found were

correlated with geography or altitude (the morpho-geographical species concept). Unfortunately, due to the author's remoteness from the sites of naturally occurring plants, no cytological or ecological studies could be undertaken.

TAXONOMIC TREATMENT

Corycium nigrescens and C. dracomontanum have been confused and, consequently, considered as a single taxon for close on a century. The actual identity of C. nigrescens was deduced from descriptions; the type-specimen is presumed to be at Stockholm. The tendency of both taxa to blacken as soon as the tissues senesce, and the lack of distinctive vegetative character-differences make it very difficult to distinguish between them externally. This situation is made even more complex by their very similar ecological and distributional ranges which transgress the tenets of the morpho-geographical species concept.

The geographical ranges of the two species overlap almost exactly, both latitudinally (known collections of C. nigrescens extend northwards to the Houtboschberg and those of C. dracomontanum southwards to Knysna) and altitudinally - with the exception of the shorter-lipped form of C. dracomontanum which occurs at generally higher altitudes. Although first-hand field information is unavailable, collectors' notes show that both taxa occur on soils derived from both basalt and sandstone and both colonize seasonally wet to dry grassland habitats; the occurrence of several mixed collections shows them to be sympatric.

The characters that were found to be useful in delimiting this complex are the shape of the lip and the lip-appendage (form of the hood and prominence of its dorsal ridge; shape of the

deflexed segments), the degree of fusion of the lateral sepals and overall size.

Colour is a very difficult character to assess as the flowers tend to turn black with increasing age. It would seem that C.nigrescens is entirely maroon-brown with a maroon lip (figure 3), while C.dracomontanum has a green lip and lip-appendage, and frequently green petals also (figures 7 a and b). Both taxa and all their variants have their peak flowering time between December and February; however, as the winter-rainfall region is approached the flowering time of C.dracomontanum shifts from March at Grahamstown to July at Knysna. The maintenance of the distinction between these two taxa as separate species would, therefore, appear to be due to two different specific pollinating agents. Since both taxa produce a sweet scent, the colour of the lip as well as its shape and that of the lip-appendage could be the key stimulus in either guiding or attracting the species-specific pollinator to each. (Kullenberg, 1956).

Key to the species of the C. nigrescens complex.

Hood of lip-appendage shallow, lip emarginate, flower large,
7,5mm long (excluding pedicel-ovary) alticola

Hood of lip-appendage deep, lip truncate or acuminate,
flower small, 5mm long (excluding pedicel-ovary)

Lateral sepals connate, lip maroon nigrescens

Lateral sepals semi-connate, lip green dracomontanum

1. Corycium nigrescens Sond., Linnaea 19 (1847) : 110 - 111.

TYPE : Quaggasvlakte, Alexandria, in sandy places on somewhat muddy ground, I - II, vi. Zeyher s.n. (S).

Pterygodium nigrescens (Sond.) Schlechter, Bull. Herb.

Boiss. 6 (1898) : 847.

An erect, glabrous herb, black when dried, 0,15 - 0,4m high. Stem erect, leafy. Leaves erecto-patent, lanceolate, acuminate, prominently nerved; those above tightly sheathing the stem. Inflorescence a densely-multiflowered, cylindrical spike, each flower subtended by an herbaceous, lanceolate-acuminate bract, as long as or slightly exceeding the flower. Dorsal sepal concave, sub-orbicular, incumbent upon and as long as the petals. Lateral sepals spreading, deflexed, saccate, connate along their entire inner margins. Petals concave, enclosing the lip appendage, sub-orbicular in outline, pointed above. Lip reflexed, porrect, cuneate, truncate at the apex, maroon. Lip-appendage with a ridge above

bipartite, the segments divaricate, deflexed and revolute.

Column 9 - 12mm long.

Figures 1A and 2 are lineograph plates of flower structure, while figure 3 shows C.nigrescens in its natural habitat.

Diagnostic Characters.

The lip-appendage has a deep, rounded hood with simple segments which can be either short or long, but are always revolute.

The lip itself is either broadly or narrowly cuneate and truncate at the apex. The lateral sepals are connate along their entire length.

Distribution.

Corycium nigrescens is distributed from the Alexandria and Albany districts of the Cape Province, through Natal and along the Drakensberg Range to the Transvaal as far as the Houtboschberg in the Pietersburg district. The altitudinal range of this taxon extends from coastal regions to the summit plateau of the Drakensberg (c.3500m). (Figure 4).

Taxonomy.

Figure 5 illustrates the variation in lip and lip-appendage morphology in C.nigrescens. The lip ranges from a broadly divergent, cuneate-truncate form to an infrequent variation with an almost tapering lip, the margins being parallel and the apex acuminate (a). The lip-appendage segments are revolute in all forms, but their length varies considerably; figure 2 and figures 5 e and m illustrate both extremes of this range.

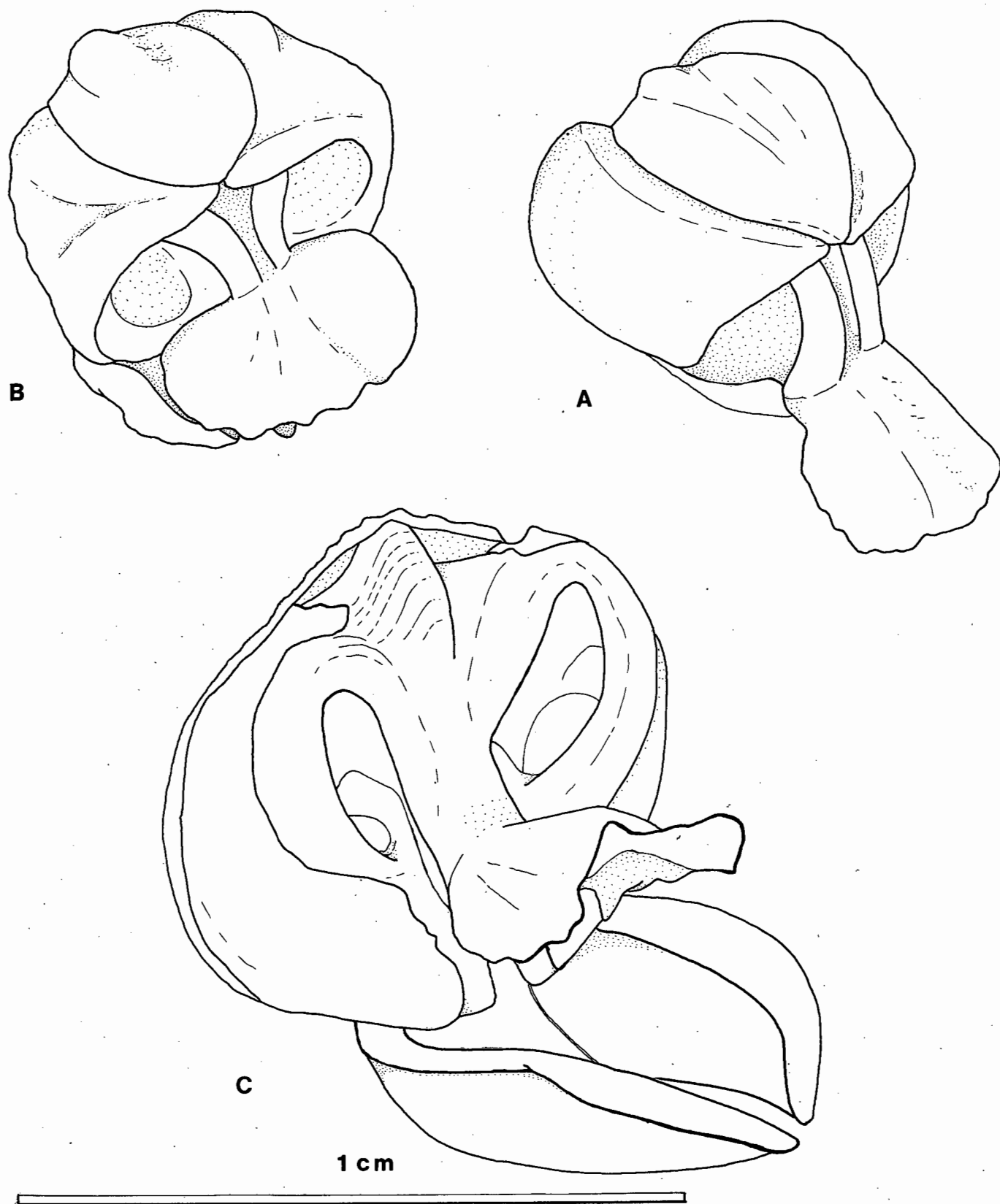


FIGURE 1. Whole flowers, dorso-lateral view. A, Corycium nigrescens Sond. (Linder IO03); B, Corycium dracomontanum Schelpe (Linder IO06); C, Corycium alticola Parkman & Schelpe (Linder IO27).

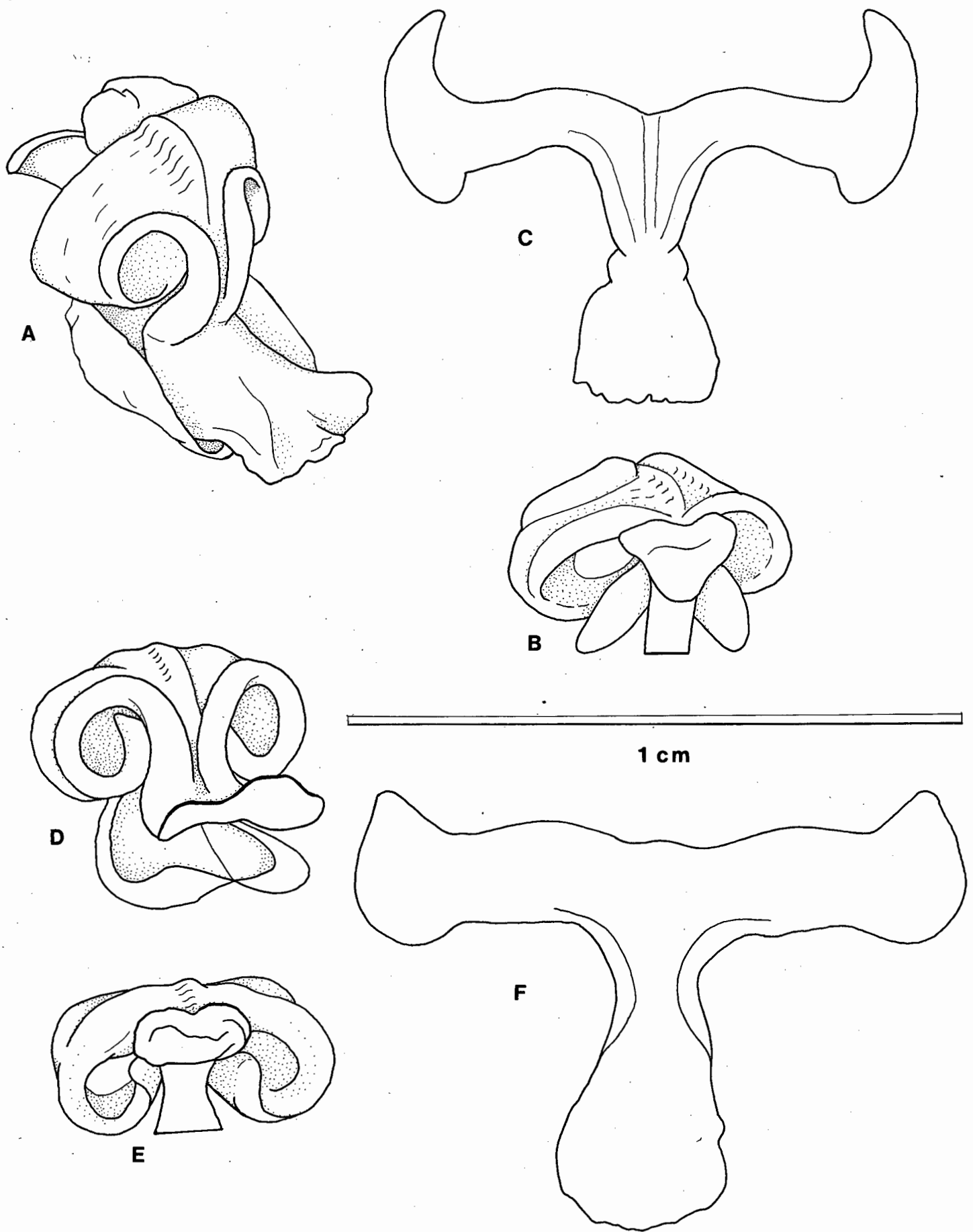


FIGURE 2. *CORYCIUM NIGRESCENS* SOND. A, dorsal view of lip and lip-appendage, (Linder 1003) B, distal view of lip-appendage, (Linder 1003); C, flattened lip and lip-appendage, dorsal view (Tyson 1592); D, proximal view of lip and lip-appendage (Hall 962); E, distal view of lip-appendage (Hall 962); F, flattened lip and lip-appendage, ventral view (Hall 962).



FIGURE 3 . Corycium nigrescens in
grassland at Cathedral
Peak.

FIGURE 4 . DISTRIBUTION OF CORYCIUM NIGRESCENS SOND.

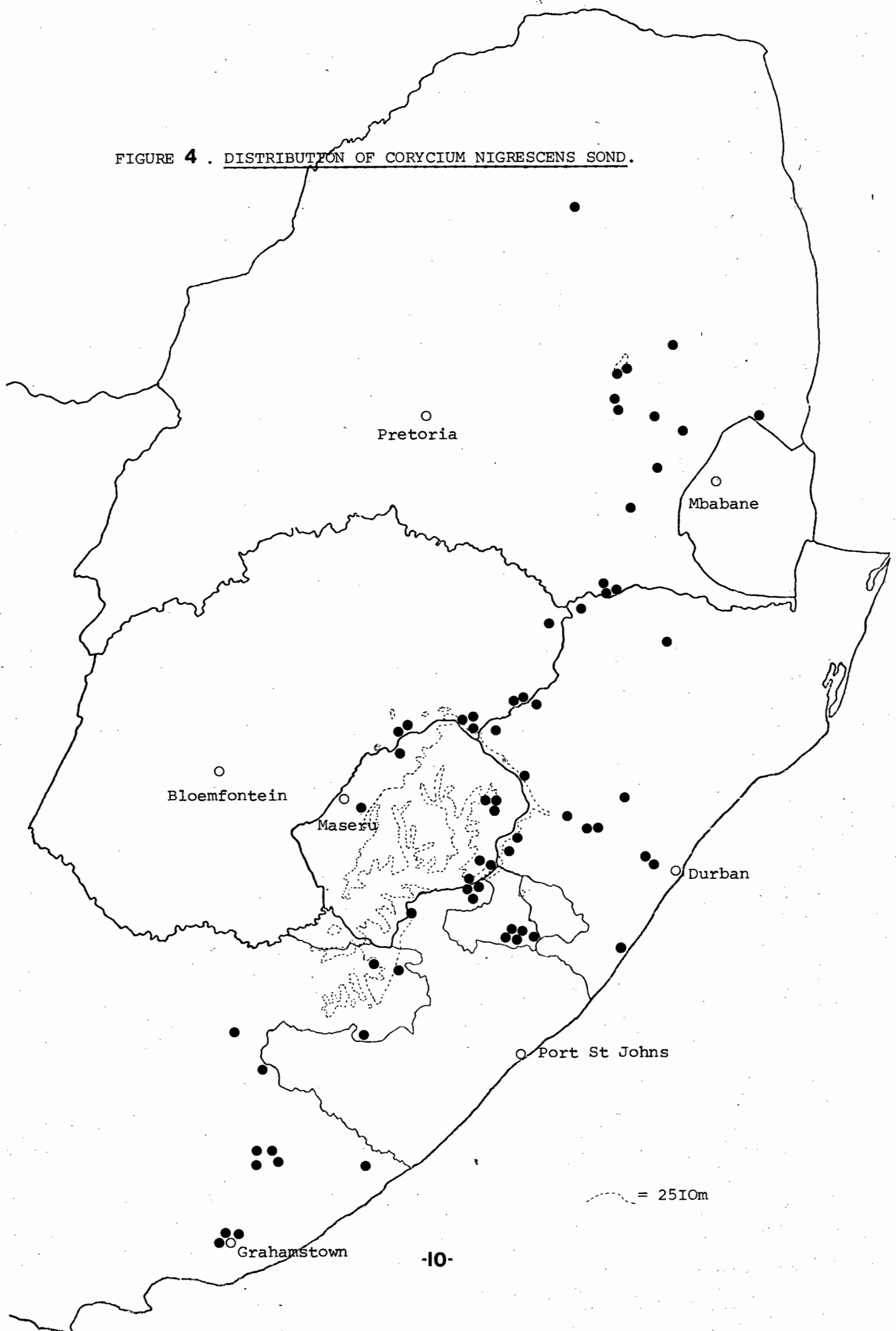
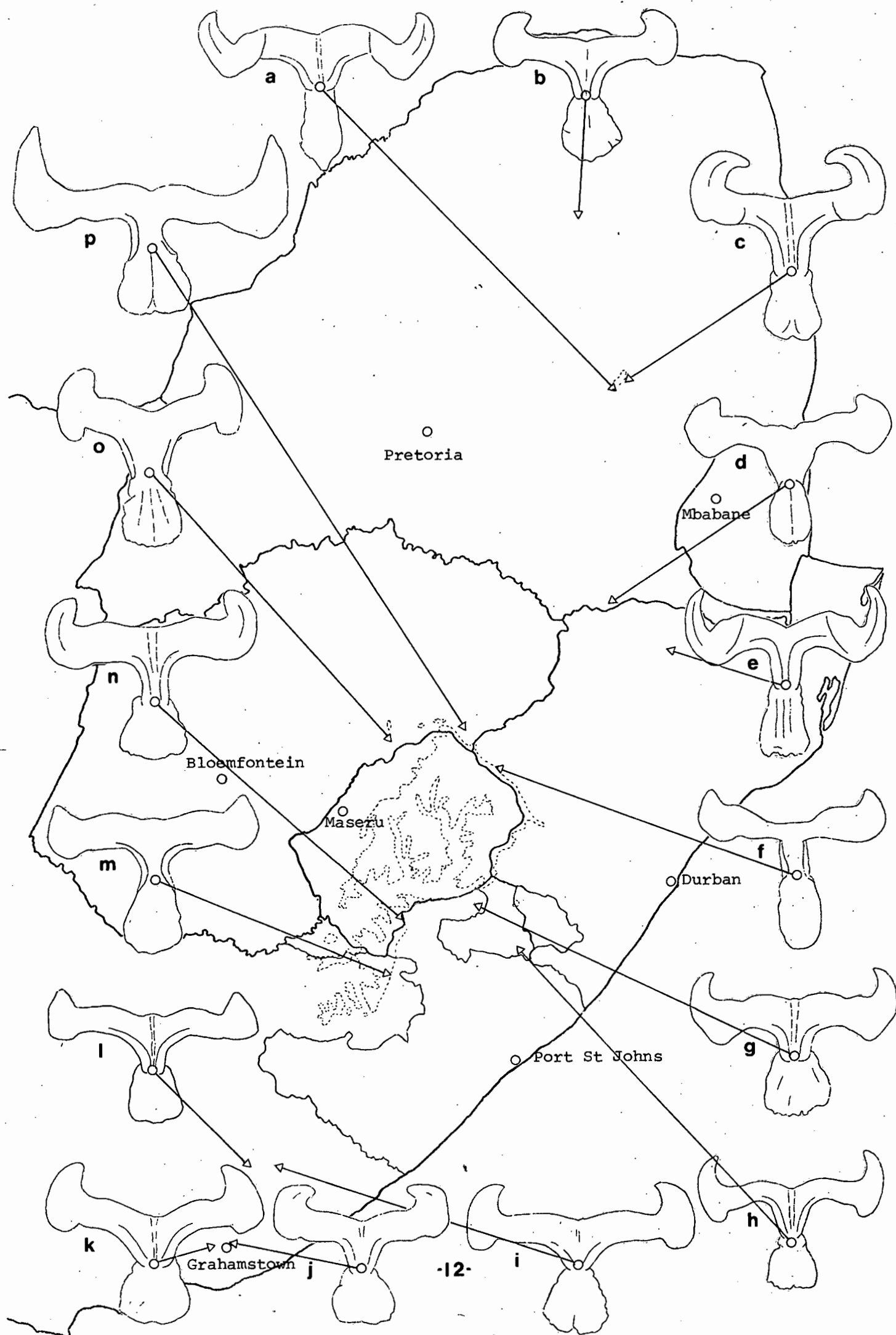


FIGURE 5 . MORPHOLOGICAL VARIATION IN THE LIP AND LIP-APPENDAGE OF
CORYCIUM NIGRESCENS SOND.

| | |
|------------------------------------|-------|
| a. <u>Galpin</u> s.n. | - |
| b. <u>Bolus</u> IIII70 | 2050m |
| c. <u>Hall</u> 84I | 2320m |
| d. <u>Linder</u> 874 | - |
| e. <u>McLoughlin</u> s.n. | - |
| f. <u>Schelte</u> 7I98 | 1690m |
| g. <u>Linder</u> IOI9 | 2880m |
| h. <u>Tyson</u> I592 | 1800m |
| i. <u>Linder</u> IO66 | 1980m |
| j. <u>Schonland</u> s.n.; BOL:598I | - |
| k. <u>Hall</u> 757 | 880m |
| l. <u>Scully</u> I7I | - |
| m. <u>Hall</u> 962 | 2340m |
| n. <u>Linder</u> IO35 | 3150m |
| o. <u>Gammel</u> s.n. | 1940m |
| p. <u>Schelte</u> s.n. | 2880m |



Yet another variation is shown by the specimen collected by Gammel s.n.(o) in which the lip-appendage has a bilobed appearance. There is no correlation between these forms and either latitude, altitude or environmental parameters.

Material Examined.

TRANSVAAL.

23 29 Pietersburg DD : Houtboschberg, 1710m, ii 1904.

Bolus 11170 (BOL)

25 30 Lydenburg AC : Dullstroom, c.2070m, 12 i 1933.

Galpin s.n. (BOL); Belfast, 2010 - 2130m,

12 i 1933. Galpin s.n.(PRE : 13657); Belfast

c. 2,5km beyond Nederhorst railway station, 1970m,

24 xii 1961. Hall 841 (BOL)

BA : De Kuylen Nature Reserve, Mt.

Anderson, 610 - 625m, 12 ii 1972. Lavranos 9363

(PRE).

CA : Bergendal, 1920m, 20 xii 1893.

Schlechter 2035 (PRE).

CB : Belfast, 14,4 kilometres west of

Slaaihoek Post Office, 1980m, 17 i 1952. Bruce 493

(PRE).

DD : Mountain slopes east from summit of

Nelshoogte Pass, 17 i 1977. Linder 860 (BOL).

25 31 Komatipoort DA : Lomati Valley, Barberton, 1220m,

ii 1923. Thornicroft 1188 (PRE).

26 30 Carolina BA : Jessievale Government Plantation,

marshy area, 1525m, 18 i 1977. Kluge 969 (PRE).

CA : 30 kilometres east of Ermelo on

Amsterdam road, 1680m, 19 ii 1951. Codd 6377 (PRE).

27 30 Vryheid AC : Wakkerstroom, summit of Paardekop
Range, 2 ii 1930. Galpin 10021(PRE); Wakkerstroom,
Oshoek, edges of vleis, 1950m, 23 xii 1960. Devenish
371 (PRE); Wakkerstroom on the farm 'Oshoek', 19 i 77.
Linder 869, 874 (BOL).

ORANGE FREE STATE.

27 29 Volksrust CA : Memel, plateau near Maraisberg, 1980m,
20 i 1977. Linder 885 (BOL).

28 28 Bethlehem CB : Near Fouriesburg, Wyndford farm above
Caledon River, 1650m, 17 i 1962. Gemmel s.n.
(BOL : 27495).

DA : Golden Gate National Park, 21 i 1965.
Roberts 3444 (PRE).

DB : Bester's Vlei, 1980m, i 1894. Bolus
13515 proparte (BOL); Witsieshoek, Witches, 2880m,
i 1977. Schelpe s.n. (BOL).

28 29 Harrismith AD : Rensburgskop, Swinburne, 18 i 1963.
Jacobsz s.n. (PRE : 35897); Kerkenberg, 11 ii 1965.
Schelpe 7279 (BOL).

NATAL

27 29 Volksrust BD : Majuba, 13 iii 1905. Rogers 3326
(PRE).

27 30 Vryheid DD : Vryheid, iv 1945. McLoughlin s.n.
(BOL).

28 29 Harrismith AD : Van Reenen, 1680m, 4 iii 1895.

Schlechter 2541 (PRE).

CA : Oliviershoek Pass, 24 i 1977. Schelpe
7704 (BOL).

CC : Mlambonja Valley, Cathedral Peak
Area, 1450m, 16 i 1965. Schelpe 7198 (BOL).

28 30 Dundee AA : 5,6 kilometres east of Ngutu growing in
swamp, 1340m, 12 i 1952. Codd 168 (PRE).

29 29 Underberg AB : Cathkin Park, i 1934. Edwards s.n.
(PRE).

BD : Lion's River, "Dargavel", 1830m,
4 ii 1957. Schelpe 6324 (BOL).

CB : Umkomanza River Valley on way to Sani
Pass, 30 i 1957. Marais 1436 (PRE).

CC : Drakensberg Garden, 1830m, 22 xii 1976.
Linder 807 (BOL).

29 30 Pietermaritzburg AB : Greenwich Farm, Rietvlei,
xii 1899. Fry 5726 (PRE).

AC : Near Howick, 1070m, 29 xi 1893. Medley-Wood
5729 (PRE).

CA : Umgeni Poort, 1680m, 21 ,ii 1964.
Moll 1444 (PRE).

DC : Botha's, 610m, 12 xi 1900.
Medley-Wood 8002 pro parte (PRE).

DD : Krantzkloof, x 1921. Haygarth
22759 (PRE).

30 30 Port Shepstone CB : Msimsini, mountain grassveld,
300 - 600m, 24 x 1962. Strey 4451 (PRE).

LESOTHO.

Lesotho, x 1941. Staples 301 (PRE).

28 28 Bethlehem CC : Leribe. Dieterleu 484a (PRE).

29 27 Maseru BC : Roma Themeda grassland, 1690m, i 1962.
Ruch 2352 (PRE).

29 29 Underberg AC : On banks of Singu River near
Mokhotlong, 15 i 1955. Coetzee 549 (PRE); Mokhotlong,
grassy banks of Orange River, 2100m, 15 i 1955, Jacot-
Guillarmod 2309 (PRE): near Mokhotlong, 2140m,
13 ii 1962, Ruch 2476 (PRE).

CC : Sehlabathebe, 2300 - 2500m, 4 - 14 i
1973. Jacot-Guillarmod, Getliffe and Mzamane 189 (PRE);
Sehlabathebe National Park, 3460m, 6 ii 1977. Linder
1003 (BOL).

30 28 Matatiele BB : Ramatseliso, mountain slopes north-
west of border post, 2340m, 24 xii 1976. Linder 812.

~~LESOTHO~~ TRANSKEI

30 28 Matatiele AC : Upper slopes of Ongeluksnek below
escarpment cliffs, 2610 - 2700m, 9 ii 1977. Linder
1035 (BOL); MacAlpine, Drakensberg, 2000m, 15 ii 1914.
McLoughlin 198 (BOL); Portershoek, 2000m, 28 xii 1914.
McLoughlin 172 (BOL).

BB : Ramatseliso Nek, rocky plateau and
grasslands, 685m, 21 xii 1974. Boardman 8 (PRE);
Mountains south of Ramatseliso gate, 3460m, 7 ii 1977.
Linder 1019 (BOL);

Ramatseleiso's Post, north-facing hillside, 2250m,

9 ii 1977. Boardman 246 (PRE).

CC : 24 km from Naude's Nek along Maclear road, 2000m, 26 xii 1961. Hall 962 (BOL).

CAPE PROVINCE.

30 27 Lady Grey DD : Rhodes, 2000m, 21 ii 1977. Batten 23 (BOL).

30 29 Kokstad AD : Foot of Mt. Currie, 1540m, i 1883. Tyson 1090(BOL); Mt. Currie, 1540 - 1830m, 28 i 1940. McLoughlin 502 (BOL, PRE).

CB : Near Kokstad, 1430 - 1540m, xii 1883. Tyson 1592 (BOL, PRE); Kokstad, xii 1883. Tyson 2685 pro parte (PRE).

DA : 16 kilometres from Kokstad on Umzimkulu National Road, 1520m, 11 xii 1961. Hall 778 (BOL).

31 26 Queenstown BG : Top of Boesmanshoek Pass, Molteno, Karoid Danthonia mountain veld, c. 1700m, 25 i 1956. Acocks 18 684 (PRE).

DD : Hangklip mountain, 1520 - 1830m, 29 i 1894. Galpin 1776 (PRE).

31 27 Lady Frere BD : 24,6 kilometres north-east of Engcobo on Elliot road, 26 i 1957. Marais 1385 (PRE).

32 26 Fort Beaufort DB : Stockenstrom, on the summit of Mt. Didimia, 1830m, 17 ii 1977. Linder 1076 (BOL): Chumie Peak, north-east side, xii 1884. Scully 171 (BOL).

32 27 Stutterheim CA : Hogsback, 11 xii 1961. Batten t93
(BOL); Hogsback Ridge, 1690m, 16 xi 1977. Linder 1066
(BOL).

DB : Grassy hills near Komgha, 610m,
xii 1890. Flanagan 826 (PRE).

33 26 Grahamstown AD : Coldspring, 750m, 6 xii 1961.
Hall 757 (BOL).

BC : Near Grahamstown, xi 1889. Schönland
5981 (BOL); Grahamstown, ii 1917. Jane 17 152 (PRE).

2. Corycium dracomontanum Schelpe ined. HOLOTYPE : Witsieshoek below the sentinel, 8300', 22 i 1977. Schelpe 7668 (BOL):
ex affinitate C. nigrescentis Sond. sepalis semi-connatis, limbo
labelli viridi, cucullo labelli-appendicis profundo, segmentis
oblongo-integribus distinguenda.

An erect glabrous herb, black when dried, 0,15-0,4m. high.
Stem erect, leafy. Leaves erecto-patent, lanceolate, acuminate,
prominently nerved; those above tightly sheathing the stem.
Inflorescence a densely many-flowered, cylindrical spike, each
flower subtended by an herbaceous lanceolate-acuminate bract,
as long as or slightly exceeding the flower. Dorsal sepal
concave, orbicular, incumbent upon, and as long as, the petals.
Lateral sepals spreading, saccate, connate for up to half of
their length. Petals concave, enclosing the lip appendage, sub-
orbicular in outline, pointed above. Lip sharply reflexed,
pointing downwards, tapering, acuminate, undulate or flat and
crenate, green. The lip-appendage dome-shaped with a ridge
above, bipartite, the segments divaricate, deflexed, oblong or
somewhat rounded. Column 9 - 12mm long.
Figures 1B and 6 are lineograph plates of flower structure, while
figure 7 shows C. dracomontanum in its natural habitat.

Diagnostic Characters.

The lip-appendage has entire oblong (pointed or rounded)
segments. The lip tapers to an obtuse point (sometimes acute)
and is very seldom emarginate. The lateral sepals are never
connate for more than half of their length.

Distribution.

Corycium dracomontanum is distributed from Knysna in the

south, through the Transkei and Natal and along the Drakensberg escarpment into the south-eastern half of the Transvaal. The altitudinal range of this taxon extends from the coastal regions at Port Elizabeth and Knysna to the summit plateau of the Drakensberg (c.3500m).

Taxonomy.

Figure 9 indicates the range in lip and lip-appendage morphology in C.dracomontanum. The lip is most often longer than it is broad; 9e represents the most extreme form. It can be either undulate (e, i, o) or flat (h, k, s, t). The appendage-segments are usually oblong with the corners acuminate to varying degrees (q and m). However, in a number of the higher altitude plants, for example, q, r and t, the lip tends to be short and crenate, and the appendage-segments consistently more rounded.

Material Examined.

TRANSVAAL

24 30 Pilgrim's Rest DD : Pilgrim's Hill, iii 1937. Van der Merwe 1318 (PRE); Twelve kilometres from Pilgrim's Rest to Lydenburg. Stirton 1823 (PRE).

25 28 Pretoria CD : Donkerhoek, moist and swampy ground near stream, 28 i 1940. Repton 1308 (PRE).

DC : Bronkhorstspuit, ii 1916. Scheepers s.n. (PRE : 35893).

DD : Bronkhorstspuit, Spitzkop, xii 1915. Pott 5137 (PRE).

FIGURE 6. CORYCIUM DRACOMONTANUM SCHELPE.

A, dorsal view of lip and lip-appendage (Linder IO06); B, distal view of lip-appendage (Schelpe 7250); C, flattened lip and lip-appendage, ventral view (Linder IO06); D, dorsal view of lip and lip-appendage (Schelpe s.n.: Witsieshoek); E, flattened lip and lip-appendage, ventral view (Schelpe s.n.: Royal Natal National Park).

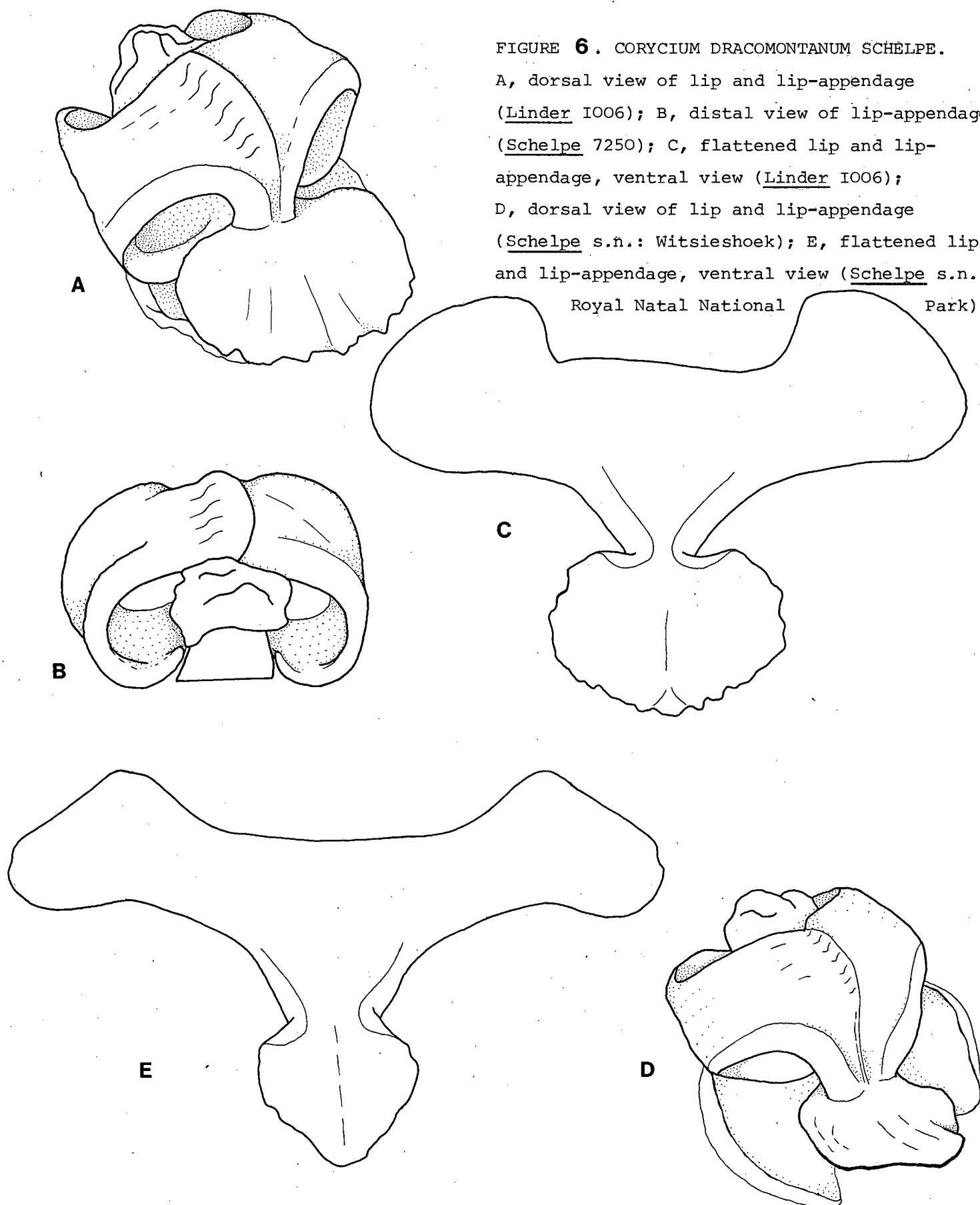




FIGURE 7 .

a Corycium dracomontanum

in grassland at
Witsieshoek.

b Corycium dracomontanum

at Van Reenen's Pass.

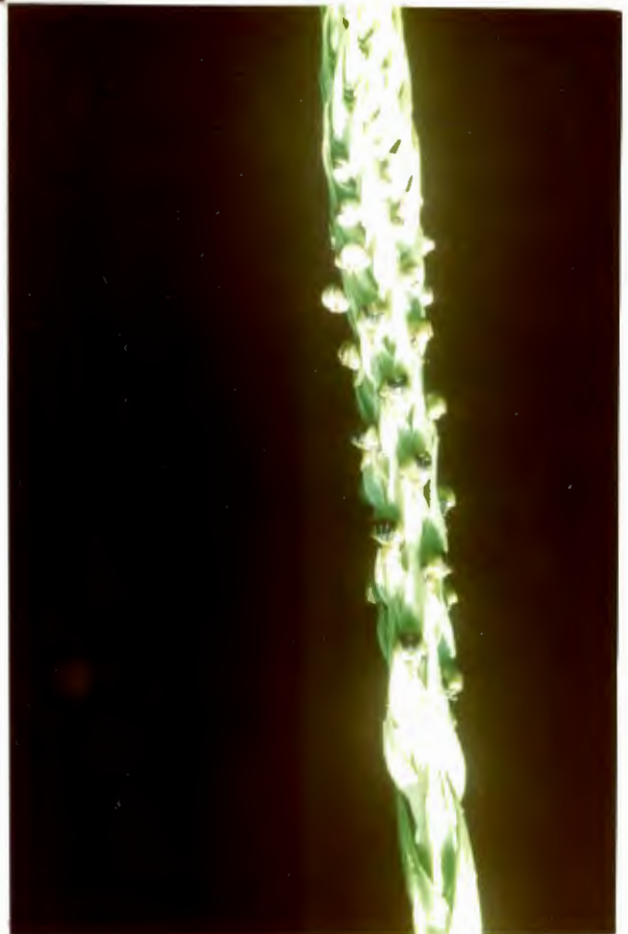


FIGURE 8 . DISTRIBUTION OF CORYCIUM DRACOMONTANUM SCHELPE.

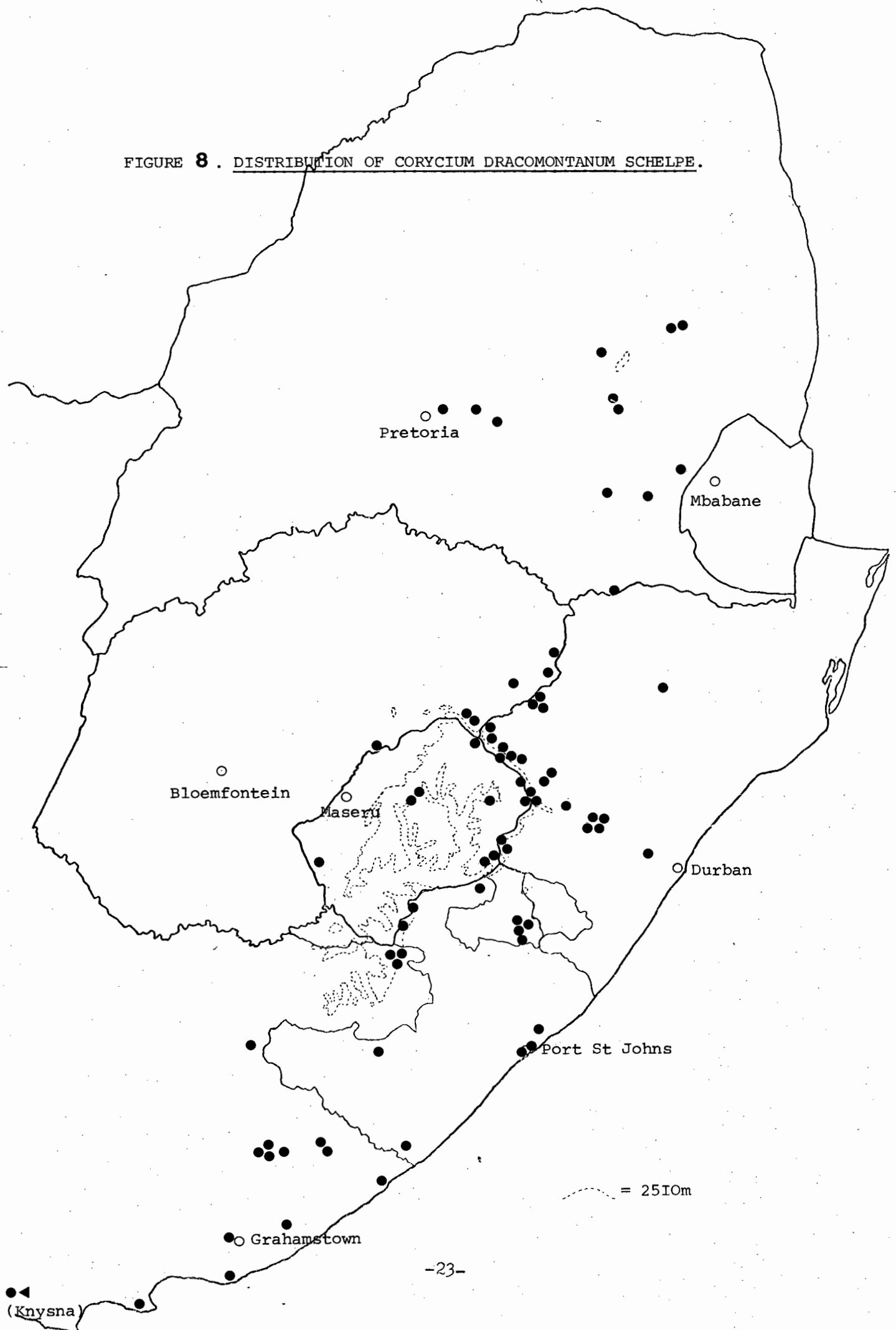
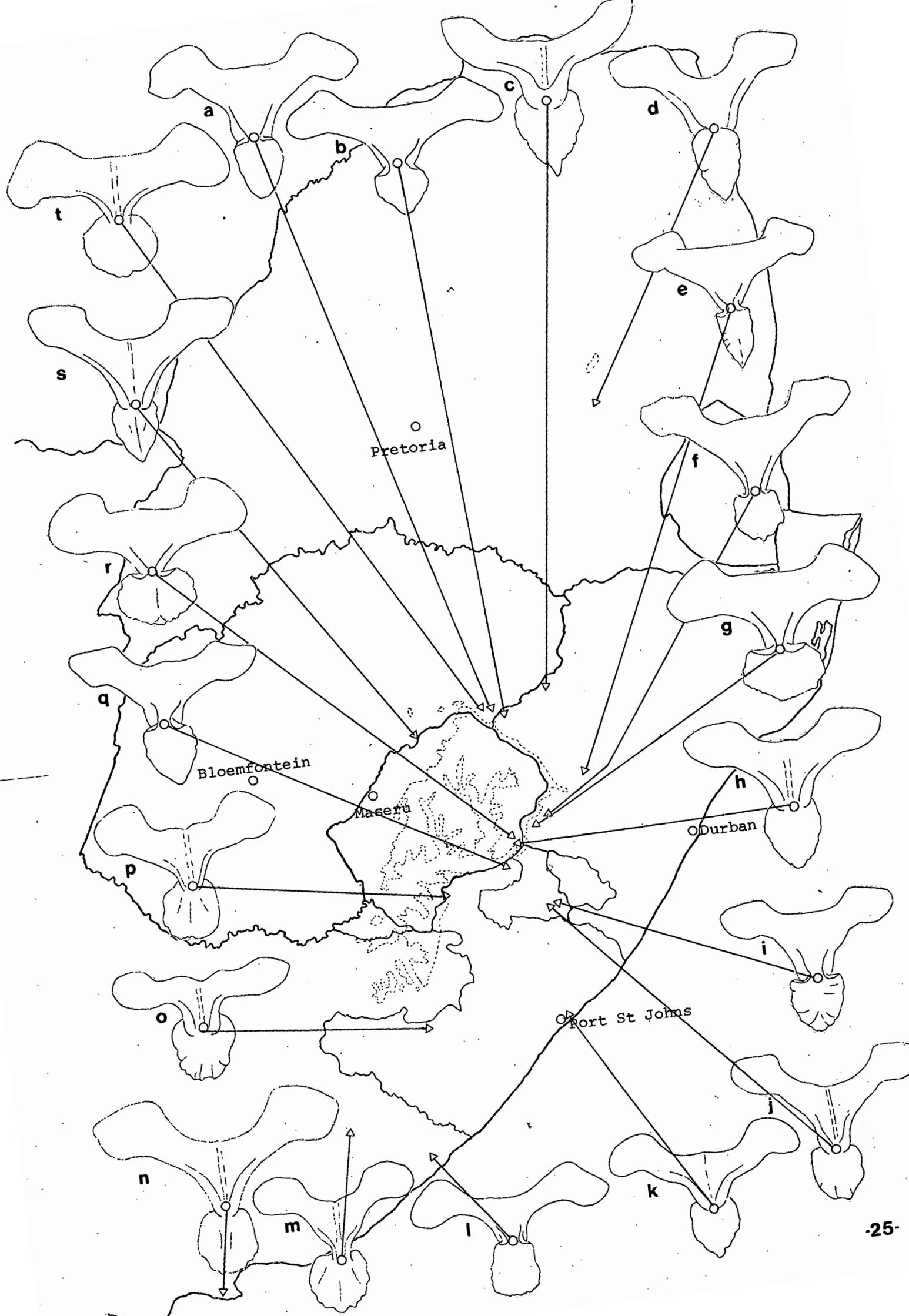


FIGURE 9 . MORPHOLOGICAL VARIATION IN THE LIP AND LIP-APPENDAGE OF
CORYCIUM DRACOMONTANUM SCHELPE

| | |
|----------------------------|---------|
| a. <u>Schelte</u> 7668 | 2990m |
| b. <u>Schelte</u> s.n. | 2520m |
| c. <u>Schelte</u> 7275 | 2160m |
| d. <u>Schlechter</u> 4013 | 2270m |
| e. <u>Linder</u> 926 | - |
| f. <u>Linder</u> 972 | c.2520m |
| g. <u>Linder</u> 971 | 3600m |
| h. <u>Linder</u> 1005 | 3240m |
| i. <u>McLoughlin</u> s.n. | - |
| j. <u>McLoughlin</u> 503 | - |
| k. <u>Rutgers</u> s.n. | - |
| l. <u>Leighton</u> 2659 | - |
| m. <u>Lewis-Grant</u> 2736 | - |
| n. <u>West</u> 305 | - |
| o. <u>McLoughlin</u> 27 | 1300m |
| p. <u>Linder</u> 1036 | 3240m |
| q. <u>Linder</u> 1020 | 2880m |
| r. <u>Linder</u> 1006 | 3420m |
| s. <u>Fowkes</u> 141 | - |
| t. <u>Schelte</u> 7669 | 2990m |



- 25 29 Witbank BB : Roos Senekal, vleiland, 1160m, i 1918.
Leipoldt s.n. (PRE).
- 25 30 Lydenburg CA : Belfast, 5 ii 1904. Burt-Davy
 1293 (BOL): Near Bergendal, 1940m, 20 xii 1893.
Schlechter 4013 (BOL).
- 26 29 Bethal DB : Ermelo, 9 ii 1910. Leendertz 7846 (PRE).
- 26 30 Carolina BA : 7,2 kilometres south-east of The
 Brook, 1710m, 5 iii 1956. Codd 9498 (PRE). Ermelo,
 Nooitgedacht Reserve Station, Townlands, 22 i 1976.
Balsinhas 2910 (PRE).
- 37 30 Vryheid AC : Wakkerstroom, i 1912. Roberts 12740
 (PRE): Wakkerstroom, 1890m, ii 1917. Beeton 241 (PRE).

ORANGE FREE STATE.

- 27 29 Volksrust DC : About 1,6 kilometres west of top of
 Normandies Pass, 1890m. Acocks 23809 (PRE).
- 28 27 Senekal DD : Ficksburg, i 1937. Fowkes 141 (BOL).
- 28 28 Bethlehem DB : Near Bester's Vlei, 1940m, i - ii
 1895. Jacobsz s.n. (BOL: 13515 pro parte);
 Witsieshoek below the Sentinel, 2550m, 22 i 1977.
Schelpe 7668 : TYPE, 7669 (BOL); Witsieshoek, Witches-
 Sentinel, 2460 - 2760m, i 1977. Schelpe s.n. (BOL).
 DD : Mont aux Sources, 3200m, 22 ii 1926.
Bayer and Maclean 266 (PRE).

28 29 Harrismith AC : Platberg Botanic Garden area,
2420m, 4 ii 1975. Jacobsz 2587 (PRE).

LESOTHO

29 27 Maseru CD : Mission garden, Likhoeck, iii 1915.
Dieterleu 1107 (PRE).

29 28 Marakabei AC : Senquingane River, 2750m, 9 i 1955.
Jacot-Guillarmod 2250 (PRE); Damp, grassy north-
facing slope of Mopeli stream 64 kilometres from
Maseru on mountain road, 2380m, 4 iii 1956. Jacot-
Guillarmod 2509 (PRE).

29 29 Underberg AA : Alpine grassveld on summit of Drakens-
berg between Indumeni Dome and Cleft Peak, 2990m,
21 ii 1958. Killick 2351 (PRE); Near summit of Organ
Pipes Pass, 3010m, 27 i 1965. Schelpe 7250 (BOL).

AC : Mokhotlong, 2440m, 28 ii 1949. Jacot-
Guillarmod 1007 (PRE).

CC : Sehlabathebe National Park, 2740m,
6 ii 1977. Linder 1005 (BOL); Sehlabathebe National
Park, Thamatuwe Pass, 2900m, 6 ii 1977. Linder 1006,
(BOL, PRE).

30 28 Matatiele AC : Upper slopes of Ongeluksnek and
mountains, 2743m, 9 ii 1977. Linder 1036 (BOL);
summit of Drakensberg on Satsanna's Peak, c.2800m,
18 iii 1904. Galpin 6844 (BOL, PRE).

BA : Fikilemotho Peak, 2400m, 15 ii 1914.
McLoughlin 200 (BOL).

NATAL.

Saunders s.n. (BOL : 6059).

27 29 Volksrust BD : Utrecht, farm Glen Atholl near
Charlestown and Volksrust, 1830m, i 1928.

Smith 5637 (PRE).

28 28 Bethlehem DB : North boundary, Royal Natal National
Park, 2150m, i 1977. Schelte s.n. (BOL); Top of
Oliviershoek Pass on slopes of Babangibone, 2150m,
20 i 1977. Linder 890 (BOL).

DD : National Park, Mont aux Sources,
ii 1927. Prescott-Decie s.n. (BOL).

28 29 Harrismith AD : Van Reenen, 1680m, 4 iii 1895.
Schlechter 2541 (PRE); Van Reenen, 3 iii 1899.
Schlechter 6963 (BOL); Van Reenen, in damp ground in
veld, 1680m, 27 xi 1919. Phillips s.n. (PRE : 35890);
Van Reenen's Pass, 1830m, 11 ii 1965. Schelte 7275 (BOL).

CC : Mlambonja Valley, 1450m, 5 ii 1957.
Schelte 6332 (BOL); Bergville, Cathedral Peak Area,
1600m, 6 ii 1957. Schelte 6345 (BOL); Upper Masongwaan
Valley, 1830m, 22 i 1977. Linder 899 (BOL).

29 29 Underberg AD : Giant's Castle, open veld, 2440m,
ii 1915. Symons 14841 (PRE); Giant's Castle Game
Reserve, Injasuti area adjacent to stream, 1920m,
2 i 1966. Trauseld 503 (PRE); Giant's Castle Game
Reserve summit plateau at 'The Giant', east facing slope,
3110m, 23 i 1968. Trauseld 937 (PRE).

BA : Tabamhlope, Estcourt, 1520m, ii 1965.
Miller 386 (PRE); Estcourt, near Ntabamhlope Hill,
25 i 1977. Linder 914 (BOL).

BD : Kamberg Nature Reserve, 26 i 1977.
Linder 926 (BOL).

CB : Sani Pass, on streambank, 2680m,
25 i 1966. Killick and Vahrmeyer 3775 (PRE); Drakens-
berg Garden area, lower valley of the Mlambonja, 1850 -
2460m, 3 ii 1977. Linder 972 (BOL).

CC : Top of the Escarpment at Drakensberg
Garden on the Mlambonja watershed, 3070m, 3 ii 1977.
Linder 971 (BOL).

29 30 Pietermaritzburg AC : Lion's River, near the farm
Mountain Glen, Dargle, 25 i 1965. Taat 1370 (PRE).

BA : Princetown, 400 - 900m, x 1905.
Sanderson 485 (BOL); Princetown, 5 x 1909. Wood 11493
(PRE); At the Dargle. Sanderson 1064 (BOL).

DC : Botha's, 610m, 12 xi 1900.
Medley-Wood 8002 pro parte (PRE).

TRANSKEI

30 28 Matatiele AB : Escarpment summit at Twin's Cave,
3000m, 24 i 1977. Linder 906 (BOL).

BB : Mountains south of Ramatseliso Gate,
2460m, 7 ii 1977. Linder 1020 (BOL).

31 27 Lady Frere DB : Encobo, 1300m, McLoughlin 27 (BOL).

31 29 Port St. John's BC : Lusikisiki, Fraser Falls area,
30 x 1963. Rutgers 11 (BOL).

DA : West Gate, 29 x 1939.

McLoughlin 409 (BOL, PRE : 26264); Near Reservoir,
14 xi 1963. Rutgers s.n. (BOL).

32 28 Butterworth AD : Kentani, valleys, 370m, xi 1904.
Pegler 241 (PRE).

CC : Evelyn Valley, King William's Town,
13 i 1947. Leighton 2659 (BOL).

CAPE PROVINCE.

30 28 Matatiele CA : Just before Naude's Nek coming from
Pot River Pass, 1780m, 19 ii 1977. Batten 10 (BOL);
Naude's Nek Pass, 2610m, 19 ii 1977. Batten 13 (BOL);
Near summit of Naude's Nek Pass, 2460m, 10 ii 1977.
Linder 1046 (BOL).

30 29 Kokstad AD : Kokstad, 1430m, xii 1883. Tyson 1592
(PRE); Mt. Currie, 1540m, 18 i 1920. McLoughlin 429
(BOL); Mt. Currie, 28 i 1940. McLoughlin 503 (BOL);
Mt. Currie, ii 1944. McLoughlin s.n. (BOL).

31 26 Queenstown DA : Summit of the Andriesberg, 2070m,
17 i 1897. Galpin 5720 (PRE).

32 26 Fort Beaufort DB : Gaika's Kop, Hogsback - Amatola
Mountains. Lewis-Grant 3087 (PRE); Slopes of Gaika's
Kop, 1830m. Linder 1059 (BOL); Stockenström, on the
summit of Mt. Didimia, 1830m, 17 ii 1977. Linder 1075,
1076 (BOL).

32 27 Stutterheim AD : Fort Cunynghame, 1220m, 1897.

Sim 20065 (PRE).

CA : Robinson's Drift, Hogsback Mountains..

22 xii 1926. Lewis-Grant 2736 (BOL).

CB : Dohne, damp grassy hollow beside railway, c.920m, 27 xi 1942. Acocks 9386 (PRE).

33 25 Port Elizabeth CD : Kraggakamma, vi 1908. West 305 (BOL).

33 26 Grahamstown AD : Albany, railway line near New Cemetery, 31 iii 1937. Britten 6594 (PRE).

CB : Alexandria, 14 vi 1931. Galpin s.n. (BOL, PRE : 10832).

33 27 Peddie CA : Peddie, near Great Fish River mouth, 10 iv 1944. Widdicombe 25 (BOL).

34 23 Knysna AA : Hill near Knysna, 183m, vii 1917. Michell 16116 (BOL).

3. Corycium alticola Parkman & Schelpe ined. HOLOTYPE : Upper section of Ongeluksnek Pass next to road, 8000', 9 ii 1977.

Linder 1027 (BOL); ex affinitate C.nigrescentis Sond.

sepalis semi-connatis, limbo labelli dilute marronino, cucullo labelli-appendicis vadaso, segmentis rotundato-bilobatis distinguenda.

An erect, glabrous herb black when dried, 0,25 - 0,4m high. Stem erect, leafy. Leaves erecto-patent, lanceolate, acuminate, prominently nerved, sheathing the stem. Inflorescence a densely many-flowered, cylindrical spike, each flower subtended by an herbaceous, lanceolate acuminate bract, as long as or slightly exceeding the flower. Dorsal sepal suborbicular, flat with involute margins, not quite as long as, and incumbent upon, the petals. Lateral sepals spreading, deflexed, concave, connate for half their length, conspicuously notched at the point of divergence. Petals concave, sub-lanceolate, acuminate, not completely enclosing the lip appendage. Lip porrect, sub-rectangular, emarginate, pale maroon. Hood of lip-appendage tall, shallow with very prominent sub-rectangular ridge above; bipartite, the segments divaricate, deflexed, straight, bilobed, one lobe inflexed around pollinia. Column 10 - 15mm long. Figures 1c and 10.

Diagnostic Characters.

This taxon is easily separated from both C.nigrescens and C.dracomontanum by the relatively large size of both flowers and vegetative parts. Closer examination will reveal a totally different lip-appendage (the segments are not revolute) and a characteristic notch in the semi-connate lateral sepals at the point of divergence.

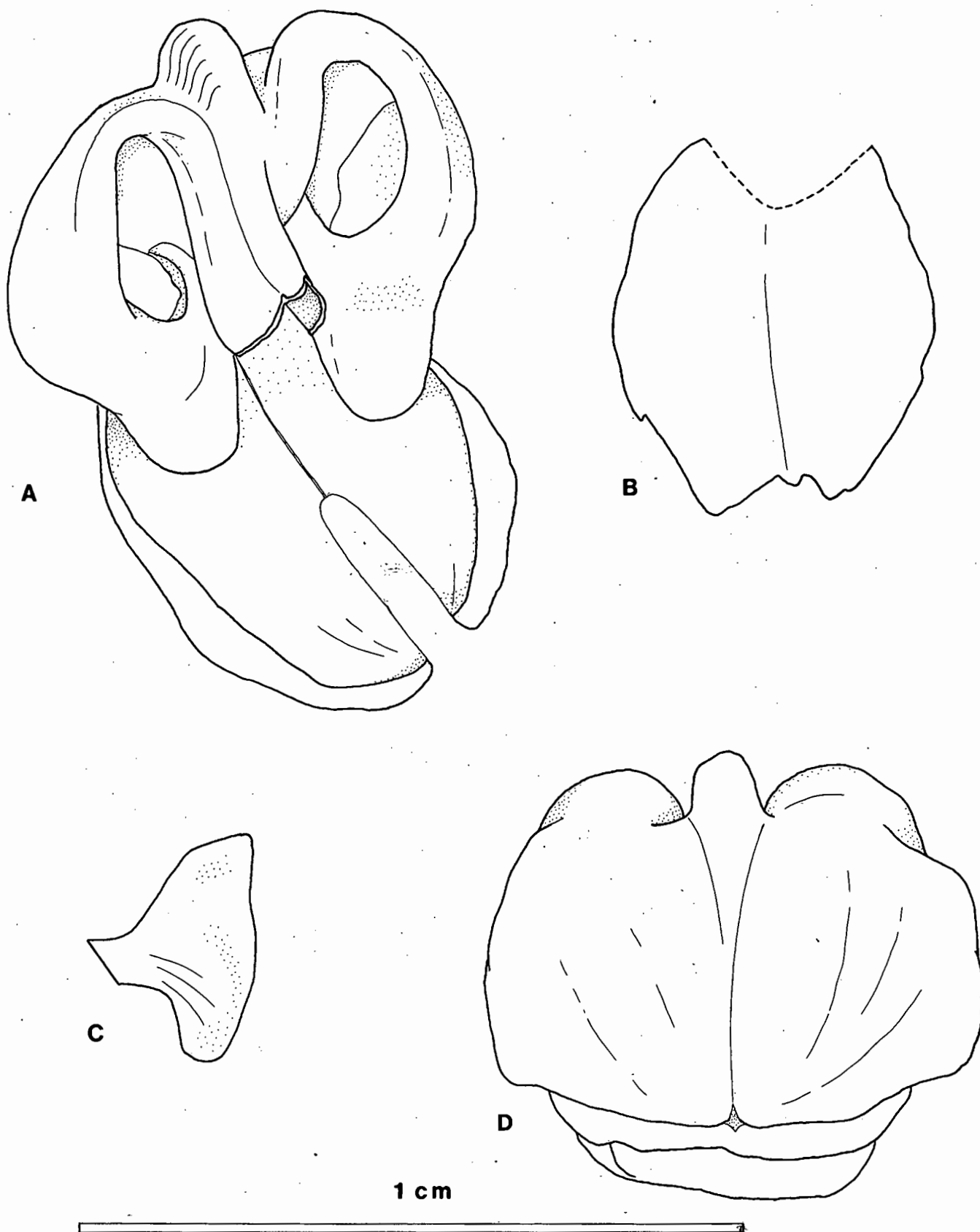


FIGURE 10. *CORYCIUM ALTICOLA* PARKMAN&& SCHELPE. A, proximal view of lip-appendage; B, dorsal view of lip; C, distal portion of lip-appendage segment; D, distal view of lip-appendage (All from Linder 1027).

Distribution.

Corycium alticola is known from three collections only, all three above 2300 metres altitude. However, it is probable that it is distributed all through Lesotho from Roma to Ongeluksnek, and further to Rhodes in the Cape Province.

Figure 11.

Material Examined.

LESOTHO

29 27 Maseru BD : Thabana Tsekanyane, Themeda grassland, 2500m, 27 ii 1960. Ruch 1618 (PRE).

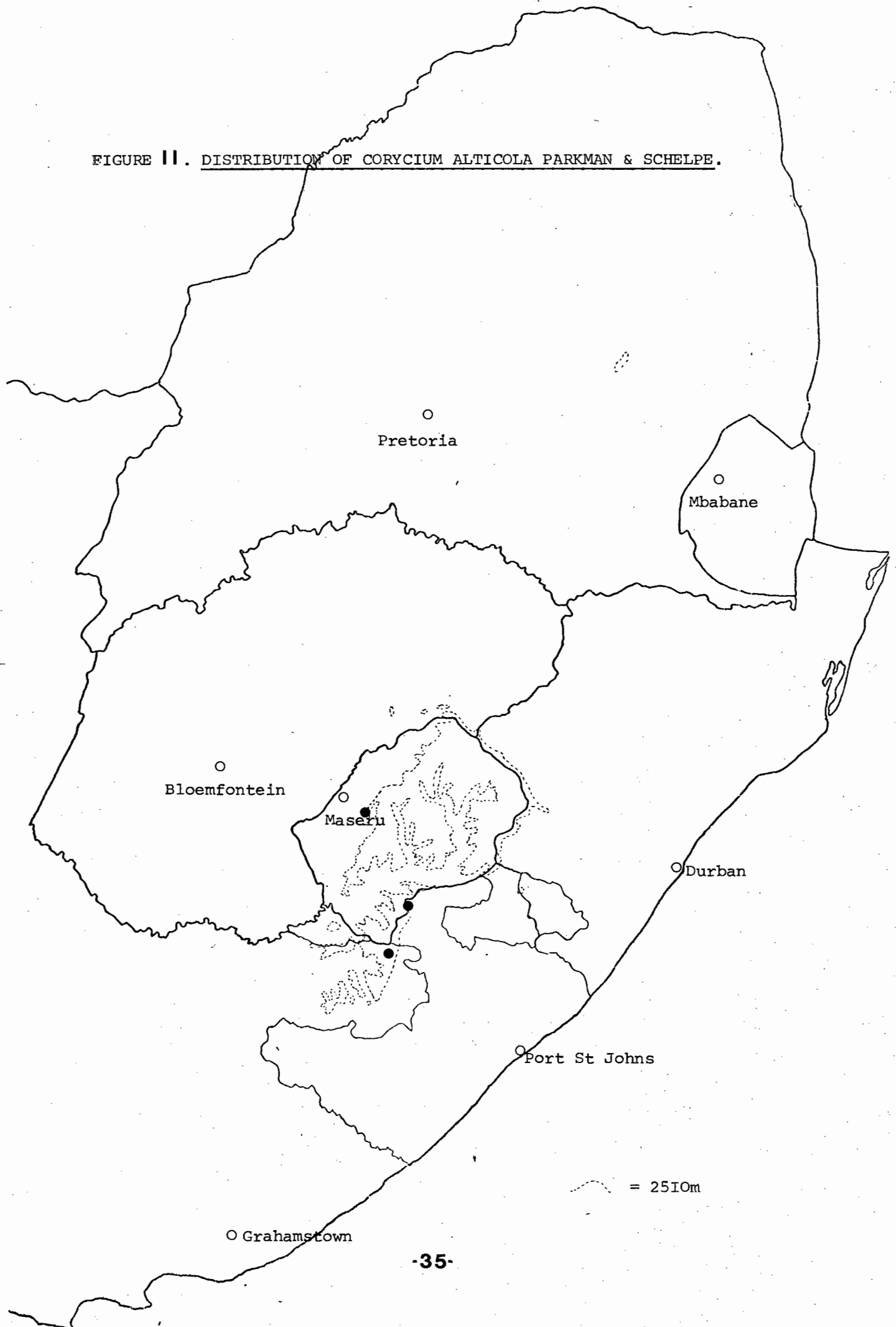
CAPE PROVINCE

30 27 Lady Grey DD : Near Rhodes on steep, stony hillside in peaty soil, 2340m, 21 ii 1977. Batten 22 (BOL).

TRANSKEI

30 28 Matatiele AC : Upper section of the Ongeluksnek Pass next to road, 2880m, 9 ii 1977. Linder 1027 : TYPE (BOL).

FIGURE II. DISTRIBUTION OF CORYCIUM ALTICOLA PARKMAN & SCHELPE.



ACKNOWLEDGEMENTS

The author wishes to thank her supervisor, Professor E.A.Schelpe, for guidance and help and, as the Curator of the Bolus Herbarium, for the use of its material and facilities.

I should also like to thank the Botanical Research Institute, Pretoria, for the loan of their dried material.

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